



# **Zayani**

## **Sipson Road, Uxbridge**

### **Internal Daylight/Sunlight Report**

**30 December 2024**

**Matthew Craske**  
For and on behalf of Daylight Sunlight Consulting Ltd

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**Appendix 1 – Illuminance Method Daylight Results**

**Appendix 2 – Sunlight Exposure Results**

## 1. Introduction

- 1.1 Daylight Sunlight Consulting Ltd has been instructed to provide daylight and sunlight advice with regard to the works at Zayani, Sipson Road, Uxbridge.
- 1.2 We have assessed the effects that the proposed works would have on the light within the proposed unit to the ground floor, to the rear of the site, as the other areas are either existing residential uses, or will clearly obtain high levels of daylight and sunlight.
- 1.3 We have been provided with the existing and proposed drawings from Wythe Holland Limited, referenced 2189 and attended site to properly understand the relationship between the development site and adjacent properties.

## 2. Principles for assessing daylight and sunlight

2.1 The main document for testing and evaluating daylight and sunlight effects is the Building Research Establishment (BRE) guidelines – Site Layout Planning for Daylight and Sunlight: A guide to good practice (2022).

### Daylight to new developments

2.2 The assessment of daylight within new properties is set out in Part 2.1 of the BRE guidelines, as well as Appendix C, whereby the 2022 BRE guidelines has now been brought into line with British Standard EN 17037:2018.

2.3 The 2022 BRE guidelines sets out the methodology for the illuminance method or daylight factor method, and either test and their target levels for adherence can be used. For this report the illuminance method has been utilised, with the suggested minimum target levels and tests summarised below, being based on a detailed 3D technical assessment model:

2.3.1 Illuminance Method – this measures the daylight within a room using climatic data for the location of the site, calculating the illuminance (in lux) from daylight. Adherence to the test is achieved when the following lux target levels are obtained to at least 50% of the room's space, and when 50% of the hours in the day are met:

Bedroom 100 lux

Living room 150 lux

Kitchen 200 lux

2.4 For both the Illuminance method and Daylight Factor methods, where there are rooms with shared uses, the highest target value should apply. However, as highlighted in the BRE guidelines, for a combined living/dining/kitchen area, if the kitchen is not treated as habitable space, which has been applied in this instance,

just the living/dining area can be evaluated, although the kitchen space is included in the assessment grid area.

2.5 An assessment grid at 0.85m above finished floor level is created for each room, excluding a band of 0.3m from the walls. Professional judgement has been applied when creating the assessment grid in cases where there are irregular shaped spaces, rooms with corridors, annexed areas and/or fixed floor to ceiling cupboards. Where annexed areas occur, the full room layout and surfaces, including corridors are still included within the calculation model.

2.6 The surface reflectances for the assessment utilise the following values:

|                                 |       |
|---------------------------------|-------|
| Interior Walls                  | - 0.7 |
| Ceilings                        | - 0.8 |
| Floors                          | - 0.4 |
| Exterior walls and obstructions | - 0.3 |
| Exterior ground                 | - 0.2 |

2.7 The glazing transmittance values have been utilised, with a framing factor of 0.7, as well as a maintenance factor of 0.92 applied to the double-glazing unit with a diffuse transmittance value of 0.68.

## **Sunlight to new developments**

2.8 The assessment of sunlight for new developments is set out in Part 3.1 of the BRE guidelines, stating: -

*"In housing, the main requirement for sunlight is in living rooms, where it is valued at any time of day but especially in the afternoon. Sunlight is also required in conservatories. It is viewed less important in bedrooms and in kitchens, where people prefer it in the morning rather than the afternoon."*

2.9 The opportunity to design for sunlight to residential properties is very dependent on orientation and site layout. As highlighted in the introduction of the BRE guidelines,

the advice is not mandatory and should not be seen as an instrument of planning policy. This is particularly relevant for sunlight design, as a building's location, height and orientation should be guided more by town planning considerations and aesthetics. The adherence rates for more denser residential design are going to be lower than for more suburban houses.

- 2.10 For interiors, access to sunlight utilises the British Standard EN 17037 assessment methodology, with the target criteria of 1.5 hours of direct sunlight on the assessment date of 21 March. For dwellings, it is recommended that at least one habitable room, preferably the main living room, should meet the criterion.
- 2.11 A detailed 3D technical assessment CAD model has been created, inputting the rooms, walls, window reveals and external obstructions to replicate the potential built out scheme. The bespoke computer software assesses each window, taking the inside centre of the window, and where multiple windows light a room, the cumulative sunlight availability is added together, ensuring there is no double counting of the same sunlight hours.

### 3. Assessment Results

- 3.1 Having constructed the 3D CAD model and applied the appropriate surface finishes, the assessments have been run using MBS Software with the illuminance results shown at Appendix 1 of this report and sunlight exposure results at Appendix 2.
- 3.2 The following summary of the results is given below:
  - 3.2.1 The daylight assessment utilising the illuminance method shows that both rooms (100%) tested achieve the target lux levels to 50% of the room's assessment area. Therefore, all rooms pass the BRE guidelines daylight assessment, demonstrating acceptable levels of daylight are achieved in the proposed condition.
  - 3.2.2 The sunlight test shows the main living area in the flat passes the sunlight exposure assessment; achieving over the suggested 1.5 hours of sunlight on the 21<sup>st</sup> March assessment date.

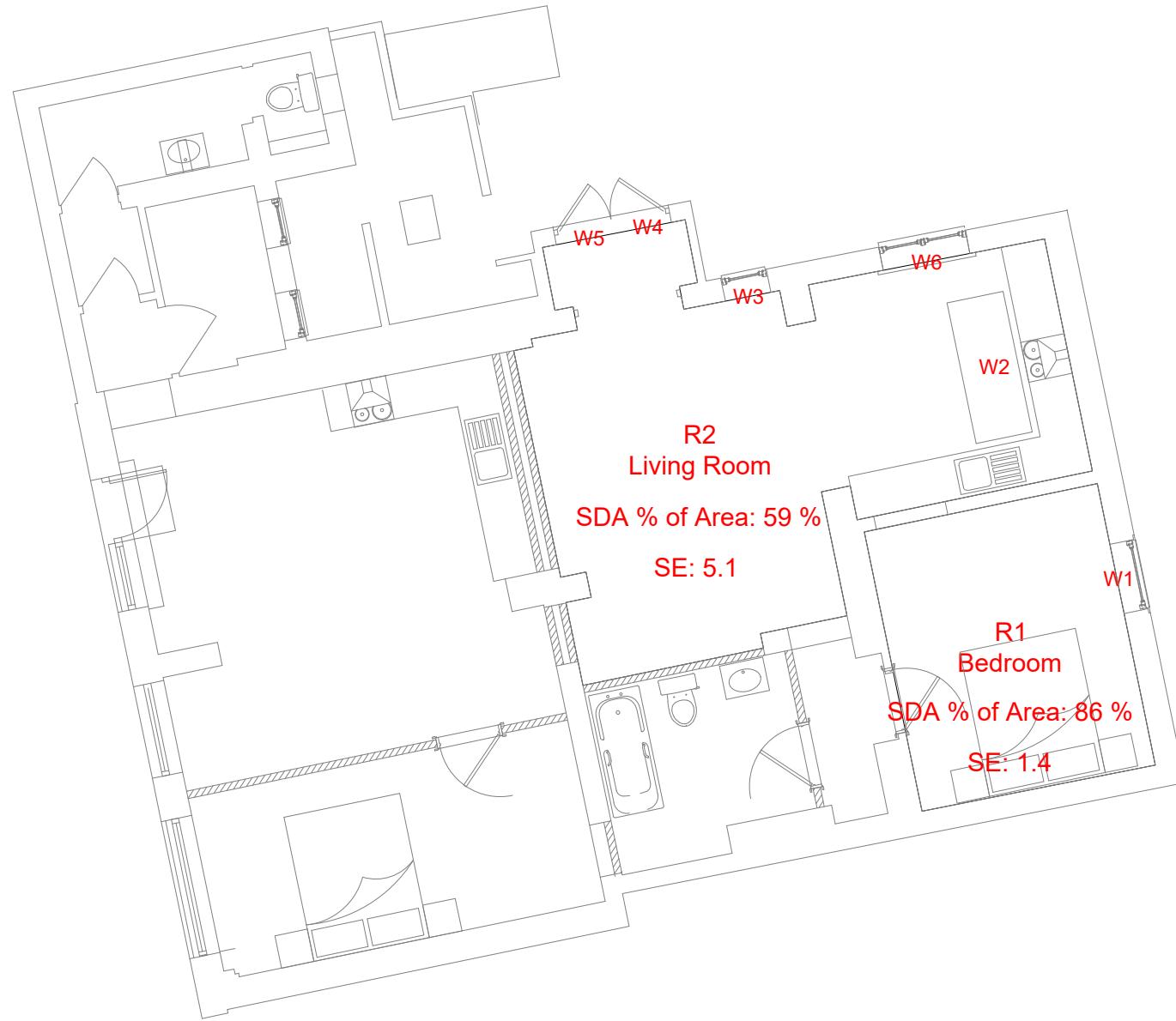
## 4. Summary and conclusions

- 4.1 The assessments have been undertaken in line with the Building Research Establishment (BRE) guidelines – Site Layout Planning for Daylight and Sunlight: A guide to good practice (2022).
- 4.2 The assessment of the light has shown that acceptable levels of daylight and sunlight will be obtained, in excess of the BRE guidelines.
- 4.3 We therefore conclude that the refurbishment of the ground floor rear unit to residential accommodation meets the expectations set out in the BRE guidelines, ensuring acceptable daylight and sunlight levels to the future occupants.

## **Appendix 1**

### **Illuminance Method Daylight Results**

## Ground Floor



NOTES:  
No dimensions are to be scaled from this drawing.  
All dimensions are to be checked on site, where  
discrepancy occurs between specification and  
drawings the supervising officer must be notified.

|      |        |       |       |
|------|--------|-------|-------|
| REV: | NOTES: | DRWN: | DATE: |
|------|--------|-------|-------|



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CLIENT:  
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PROJECT:  
Zayani  
Sipson Road  
Uxbridge

DRAWING TITLE:  
Illuminance Method results

SCALE @ A1: DATE: **Dec 24** DRAWN: **MC**  
NTS CHECKED

DRAWING NUMBER: **TC-01-01** REV: **\***



Project Name: Zayani, Sipson Road

Project No.: 1

Report Title: SDA BS En17037 Analysis - Proposed Scheme

Date of Analysis: 22/10/2024

| Floor Ref | Room Ref | Room Use    | Room Area m2 | Effective Area | Median Lux | Area Meeting Req Lux | % of Area Meeting Req Lux | Criteria |                         |                         |                |                |
|-----------|----------|-------------|--------------|----------------|------------|----------------------|---------------------------|----------|-------------------------|-------------------------|----------------|----------------|
|           |          |             |              |                |            |                      |                           | Req Lux  | Req % of Effective Area | Req % of Daylight Hours | Daylight Hours | Meets Criteria |
| Ground    | R1       | Bedroom     | 12.56        | 8.64           | 157        | 7.42                 | 86%                       | 100      | 50%                     | 50%                     | 4380           | YES            |
|           | R2       | Living Room | 30.77        | 22.09          | 216        | 13.11                | 59%                       | 150      | 50%                     | 50%                     | 4380           | YES            |

## **Appendix 2**

### **Sunlight Exposure Results**

Project Name: Zayani, Sipson Road

Project No.: 1

Report Title: Sunlight Exposure Analysis - Proposed Scheme

Date: 22/10/2024

| Floor Ref | Room Ref | Room Use    | Window Ref | Proposed Sunlight Exposure (Hours) |
|-----------|----------|-------------|------------|------------------------------------|
| Ground    | R1       | Bedroom     | W1         | 1.4                                |
|           |          |             |            | 1.4                                |
| Ground    | R2       | Living Room | W2         | 5.1                                |
|           |          |             | W3         | 0                                  |
|           |          |             | W4         | 0                                  |
|           |          |             | W5         | 0                                  |
|           |          |             | W6         | 0                                  |
|           |          |             |            | 5.1                                |



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